

## REMARKS

Claims 1-10, 12-26, 28-45, and 47-53 are pending. In the Office Action mailed on March 27, 2006 the Examiner took the following action: (1) objected to the specification; and (2) rejected claims 1-10, 12-26, 28-45, and 47-53 under 35 U.S.C. §112, first paragraph. Applicants respectfully request entry of the foregoing amendments, and reconsideration of the application in view of the foregoing amendments and the following remarks.

### *I. Objection to the Specification*

In the Office Action mailed March 27<sup>th</sup>, 2006, the Examiner objected to the specification on grounds that the formal drawings submitted by Applicant on December 29, 2005 contain matter not shown in the original drawings. Applicant submits replacement drawings concurrently herewith to correct the informalities noted by the Examiner. Specifically, the reference to “electromagnet” in Figures 1 and 2 has been changed to “magnet,” and the “circular item” in Figure 2 has been removed. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objections to the specification.

### *II. Rejections under 35 U.S.C 112, first paragraph*

Claims 1-10, 12-26, 28-45, and 47-53 stand rejected under 35 U.S.C. §112, first paragraph. More specifically, the Examiner asserts that the original disclosure fails to disclose (a) a shaped magnetic field including an approximately partially-spherical portion, and (b) at least one field-directing member configured to provide a shaped magnetic field portion of the magnetic field.

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#### An Approximately Partially-Spherical Portion

Applicant has amended claims 1, 21, 35, and 49 to remove the reference to “partially,” so that these claims now recite “approximately spherical portion” as recited, for example, in original claim 11 (now canceled).

For the record, however, Applicant notes that the ordinary meaning of the term “spherical” includes both fully-spherical and partially-spherical objects. For example, *Webster’s New Collegiate Dictionary* (150<sup>th</sup> Ed.) provides the definition of spherical as follows:

**Spherical** adj. 1: having the form of a sphere or of one of its segments.

Thus, it will be appreciated that Applicant’s use of the term “spherical” in the disclosure contemplates both fully-spherical and partially-spherical shapes. This use of the term is further supported by Applicant’s use of the term in conjunction with the magnetic field shapes shown in the accompanying figures. Finally, Applicant respectfully submits that since the term “spherical” is adequately supported by the specification, the term “partially-spherical” would also be supported as being merely a segment of the whole. After further consideration of this issue, however, Applicant has elected to amend the claims to remove reference to the term “partially” as shown above.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the Examiner’s rejections based on the term “partially-spherical.”

#### At least one Field-Directing Member

Applicant respectfully submits that the term “at least one field-directing member” is adequately supported by the specification within the requirements of 35 U.S.C. §112, first paragraph.

With respect to Figures 1 – 3, Applicant disclosed a “polepiece” as one possible embodiment of a field-directing member (e.g. reference numeral 112 in Figure 1, reference numeral 212 in Figure 2, and reference numeral 312 in Figure 3). The use of shaped polepieces (or “pole pieces”) to change the shape of magnetic fields was known at the time the Applicant’s application was filed on September 3, 2003, as demonstrated in the following issued U.S. patents: U.S. 6,060,881 “Flux Shaping Pole Pieces for a Magnetic Displacement Sensor” issued 5/09/00; U.S. 5,462,054 “Permanent Magnet Arrangement” issued 10/31/95; U.S. 4,359,706 “Magnet Pole Pieces and Pole Piece Extensions and Shields”; U.S. 4,429,308 “Electrode or Pole Piece Array for Creating Prescribed Electric or Magnetic Fields” issued 1/31/84; and U.S. 4,219,397 “Magnetron Sputter Apparatus” issued 8/26/80. Other available references that disclose the use of pole pieces for shaping magnetic fields include: “Optimisation of magnetic lens with pole-piece of finite inside diameter” by M Kodama 1982 *J. Phys. D: Appl. Phys.* **15** 965-973, 14 June 1982; and WO/2001/097245 “Sectored Magnetic Lens and Method of Use” published Dec. 20, 2001.

In addition, other types of “field-directing members” were known in the art at the time the subject patent application was filed. For example, the following issued patents demonstrate other examples of field-directing members: U.S. 5,130,697 “Method and Apparatus for Shaping a Magnetic Field” issued 7/14/92; and U.S. 4,581,118 “Shaped Field Magnetron Electrode” issued 4/8/86.

Applicant further submits that pursuant to MPEP § 2164.01, “A patent need not teach, and preferably omits, what is well known in the art.” *citing In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), *cert denied* 480 U.S. 947 (1987); and *Lindemann Maschinenfabrik GMGH v. American Hoise & Derrick Co.*, 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984). Based on the foregoing cited authorities, Applicant respectfully

submits that the subject of using a "field-directing member" to provide a shaped magnetic field portion is well known in the art. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections based on the term "field-directing member."

### CONCLUSION

For the foregoing reasons, Applicant respectfully submits that pending claims 1-10, 12-26, 28-45, and 47-53 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated: June 27, 2006

By: \_\_\_\_\_

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Enclosure: Replacement Formal Drawings

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